

Oct. 11, 1938.

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2,132,433

GAS MASK

Filed Oct. 6, 1937

Fig. 1.

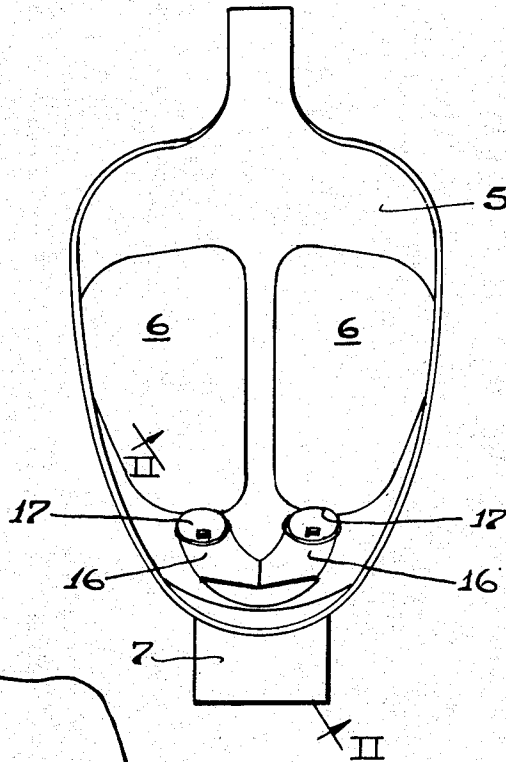


Fig. 2.

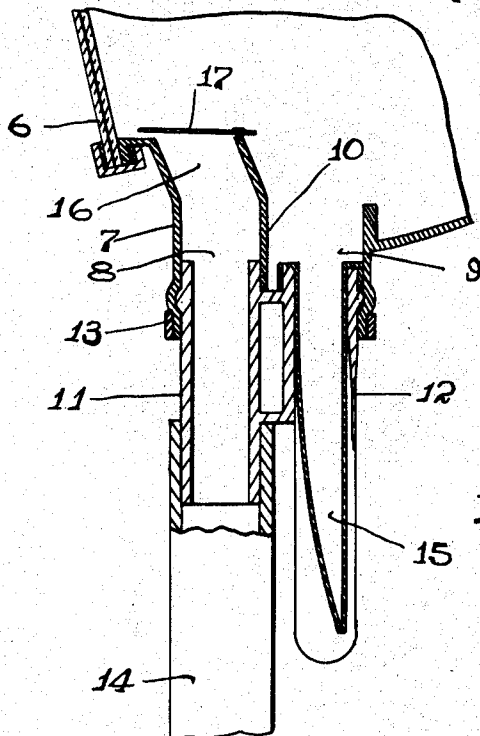


Fig. 3.

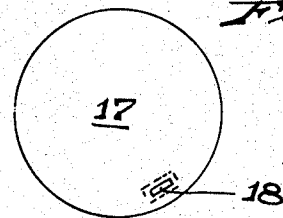
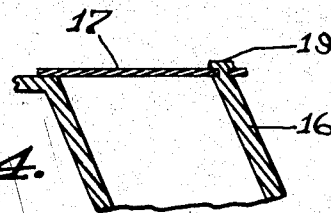


Fig. 4.



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2,132,433

GAS MASK

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Application October 6, 1937, Serial No. 167,570

2 Claims. (Cl. 128—141)

The invention relates to gas masks. It has for one of its principal objects the provision of means reducing the dead air space in communication with the interior of the mask to a minimum, so that any used air inhaled by the wearer is correspondingly reduced to a minimum. A further object is the provision of means of the character specified applied in an improved manner to the type of mask having the air inlet tubes directed toward the lenses for removing condensation, and adapted to assist in directing the inflowing air against the lenses. A still further object is the provision of improved check valve means for the extreme ends of the inlet tubes which provide practically no resistance to the passage of air into the mask, which are of negligible weight, which are reliable in operation and which are easily replaceable. One embodiment of the invention is illustrated in the accompanying drawing, wherein:

Figure 1 is an elevation of the inner or back side of the mask. Fig. 2 is an enlarged section on the line II—II of Fig. 1. Fig. 3 is a plan view on an enlarged scale of the check valve disc. And Fig. 4 is an enlarged section through the check valve construction at the end of one of the inlet tubes.

Referring to the drawing, 5 is the body of the mask, preferably of molded rubber, and provided with the lenses 6, 6. Integral with the body of the mask at the lower end, is the neck 7, divided into two passages 8 and 9 by the wall 10. Extending into the neck 7 is a metal fitting having a pair of branches 11 and 12 communicating with the passages 8 and 9, the neck and fitting being secured together by the metal clamping band 13. The branch 11 is connected to the hose 14 leading to the canister (not shown), while the branch 12 carries the rubber flutter valve 15 for the passage of the exhaled air.

Forming an upward extension of the neck 7, and also integral with the body of the mask and such neck, are a pair of branch tubes 16, 16 which open at their lower ends into the passage 8. The upper or outlet ends of these tubes terminate adjacent the lower ends of the lenses 6, 6, as indicated in the drawing, and are designed to discharge over the lenses and promote the rapid removal of condensation, as is well known in the art. The discharge of the incoming air against the lenses is promoted by the check valve discs 17, 17 which are hinged for movement at the sides of the tubes remote from the lenses.

The valve discs 17, 17 are of light, flexible sheet rubber and are mounted so that they swing up and down freely offering a minimum resistance to the flow of air into the mask. Each disc is slotted at one edge as indicated at 18 in Fig. 3,

and attachment is made to the end of the tube by means of the lug 19 (Fig. 4) integral with the wall of the tube, which lug is pushed through the slot 18, so that the head of the lug locks the disc against removal. This attachment is easily accomplished, as the rubber surrounding the slot 18 is readily stretched to permit the passage of the head of the lug.

The location of the discs 17 at the upper ends of the tubes 16 not only assists in directing the incoming air onto the lenses as heretofore pointed out, but insures that a minimum of used air shall remain in communication with the interior of the mask after exhalation, since the check valves prevent any backflow of used air into the air inlet passages. The check valves 17 are of low cost and at the same time very efficient in action, offer no perceptible resistance to the passage of air, and are easily replaceable without the use of tools.

The construction is capable of some modification without departing from the invention as illustrated in the preferred embodiment thereof. The tubes 16 are not necessarily circular in cross section, and in case of a modification in this particular, the shape of the valves would necessarily be changed to fit the tubes. The tubes may also discharge at a point other than the bottom of the lenses although the position shown is regarded as preferable. It is also possible to use some other material, which has the desired characteristics for the rubber of the valves.

What I claim is:

1. In combination in a gas mask having a body portion and a pair of lenses, an inlet tube having at its inner end a pair of branch tubes each of which has an open discharge end forming a valve seat lying in a plane transverse to a lens and at one end thereof, and a check valve of thin flexible sheet material mounted on each seat and hinged thereto at the side of the branch tube remote from the lens so that when the valve swings open it forms a baffle directing the incoming air against the lens.

2. In combination in a gas mask having a body portion and a pair of lenses, an inlet tube having at its inner end a pair of branch tubes each of which has an open discharge end forming a valve seat lying in a plane transverse to a lens and at one end thereof, said body portion and tubes being integral and of molded rubber, and a check valve of thin sheet rubber mounted on each seat and hinged thereto at the side of the branch tube remote from the lens so that when the valve swings open it forms a baffle directing the incoming air against the lens.

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